



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/574,349

04/03/2006

Katsumi Kozu

P29569

9240

52123 7590 07/24/2009  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

DAVIS, PATRICIA A

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

07/24/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,349	<b>Applicant(s)</b> KOZU ET AL.	
	<b>Examiner</b> PATRICIA DAVIS	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The Applicant's amendment filed on May 26, 2009 was received. Claims 1, 3 and 6 were amended. Claims 7-12 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior office action issued on February 23, 2009.

#### ***Claim Rejections - 35 USC § 112***

3. The claim rejections under 35 U.S.C. 112, second paragraph, on claims 1, 3 and 6 have been withdrawn because the claims have been amended.

#### ***Claim Rejections - 35 USC § 103***

4. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Hamazaki et al. and Masumoto et al. on claims 1,2,4 and 5 are maintained. The rejection is repeated below for convenience.

5. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Hamazaki et al. and Masumoto et al. and in further view of Hamada et al. on claims 3 and 6 are maintained. The rejection is repeated below for convenience.

Claims 1, 2, 4-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazaki et al. (JP 11-354089A) (hereinafter "Hamazaki") in view of Masumoto et al. (WO03/003485) (hereinafter "Masumoto").

6. Regarding claims 1 and 7, Hamazaki teaches a battery pack comprising: a plurality of rechargeable batteries (nickel-metal hydride rechargeable batteries) in a battery case (case 2) and sealing an open end of the case with a sealing plate, an electrode terminal (3) being provided in the sealing plate; a circuit substrate (circuit board 5) formed to manage all of the rechargeable batteries; and a pack case (case 2) for accommodating the rechargeable batteries and the circuit substrate (5), wherein: the plurality of rechargeable batteries are held by a frame (see fig. 1) in such an arrangement that the batteries are oriented in the same direction on their sealing-plate side. The circuit board (5) is mounted on the case (2) and the frame (see fig. 1) in a way that the circuit board (5) position on the sealing plate side of the plurality of the batteries.(see pars. 0013-0014; figs. 1 and 2).

Although, Hamazaki does not specifically teach a liquid electrolyte in the battery case it is inherent that the individual nickel metal hydride cell inherently comprises a liquid electrolyte and electrode assembly in a battery case.

Hamazaki does not teach the case accommodating a liquid electrolyte in the battery case and the sealing open end of the case with a sealing plate or that a resin mold is provided for covering a necessary surface of the circuit substrate with a resin

after the circuit substrate is electrically connected to the rechargeable batteries and to the input and output terminals or that the batteries are in a prismatic shape.

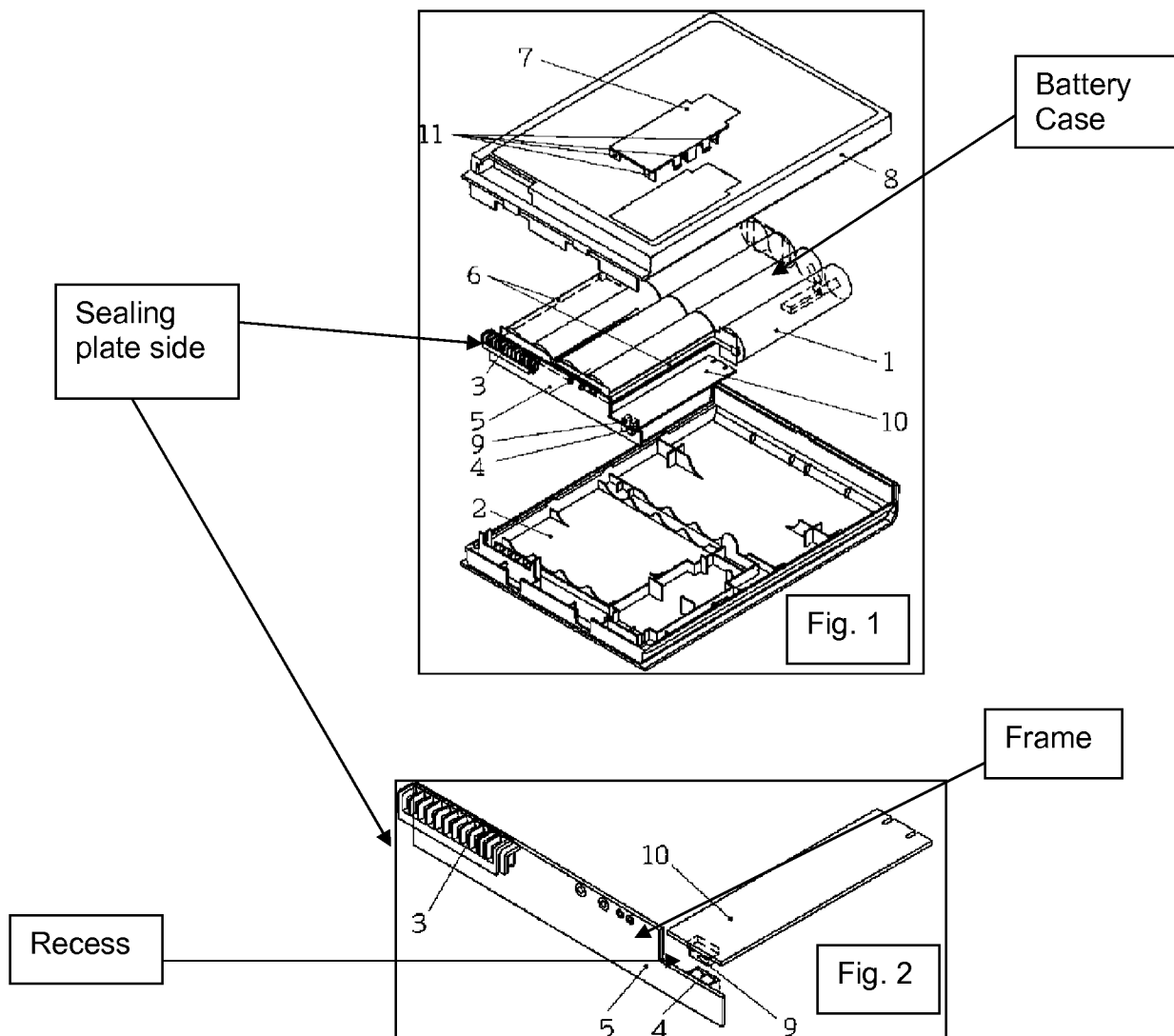
The applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR Int’l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

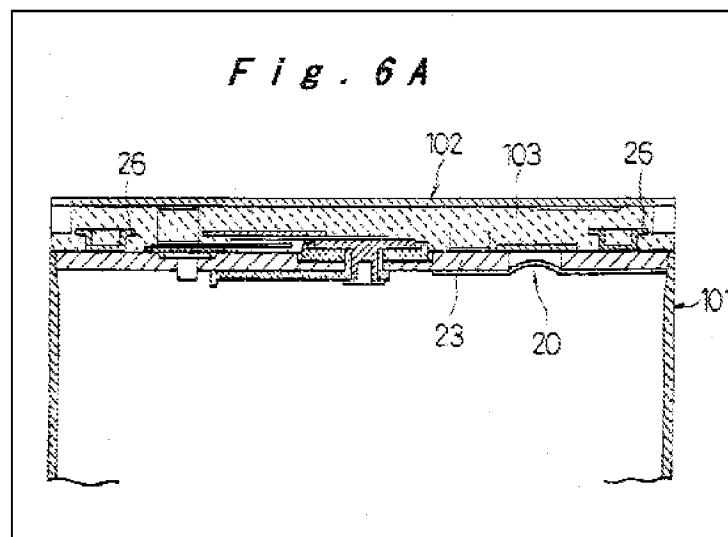
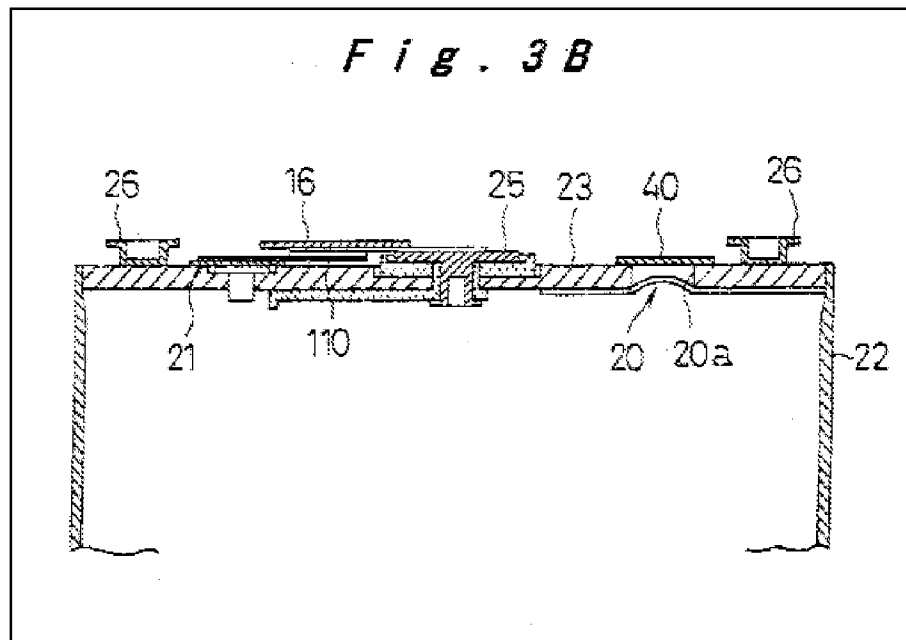
In that regard, Masumoto teaches a resin is filled between the battery (101) and the terminal plate (102) after the PTC element (circuit substrate 110) is electrically connected to the positive and negative terminals of the battery, which covers the necessary surface of the circuit substrate to make them integral with one another. Masumoto also teaches that the batteries are in a prismatic shape (see col. 10, lines 14-16 and 32-55 and col. 11, lines 39-61; figs. 3B and 6A).

Therefore, it would be obvious to one with ordinary skill in the art to combine the battery pack to have prismatic batteries and to have a sealing plate that includes a resin

Art Unit: 1795

that covers the necessary surface of the circuit substrate to make the battery and the terminal plate integral with each other and to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any thermal effects.





Regarding claims 2 and 8, Hamazaki teaches a battery pack comprising a plurality of rechargeable batteries (nickel-metal hydride rechargeable batteries) in a battery case and a sealing an open end of the case with a sealing plate, an electrode terminal (3) being provided in the sealing plate; a circuit substrate (5) formed with a

Art Unit: 1795

battery management circuit for managing the operating state of each rechargeable battery; and a pack case (case 2) for accommodating the rechargeable batteries and the circuit substrate (5), wherein: the plurality of the rechargeable batteries are held by a frame in such an arrangement that the batteries are oriented in the same direction on their sealing-plate side; the plurality of rechargeable batteries are connected in series and/or parallel by joining the connection plate (10). Also, the connection plate (10) has a connection projection (9) inserted into the connection hole (4) of the circuit substrate (see par. 0013-0014; figs. 1 and 2).

Regarding claims 4 and 10, Hamazaki and Masumoto teach all of the positively recited elements of claims 1 and 6.

Hamazaki does not specifically teach that the battery pack has a resin mold that covers a surface on which electronic components are mounted, including electrically conductive parts.

However, Masumoto teaches that the resin mold covers all of the electronic components between the battery (plain battery 101) and the terminal plate (102) on the surface where the electronic components are mounted to be integral with one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects (see col. 10, lines 32-55 and col. 11, lines 39-61; fig 6A). The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).



Therefore, it would have been obvious to one with ordinary skill in the art to combine the battery pack to have a resin that covers the necessary surface of the circuit substrate to make the battery and the terminal plate integral with one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects.

Regarding claims 5 and 11, Hamazaki and Masumoto teach all of the positively recited elements of claims 1 and 7.

Hamazaki teaches a battery pack with a recess located in the frame on the sealing side of the plate (see fig. 2).

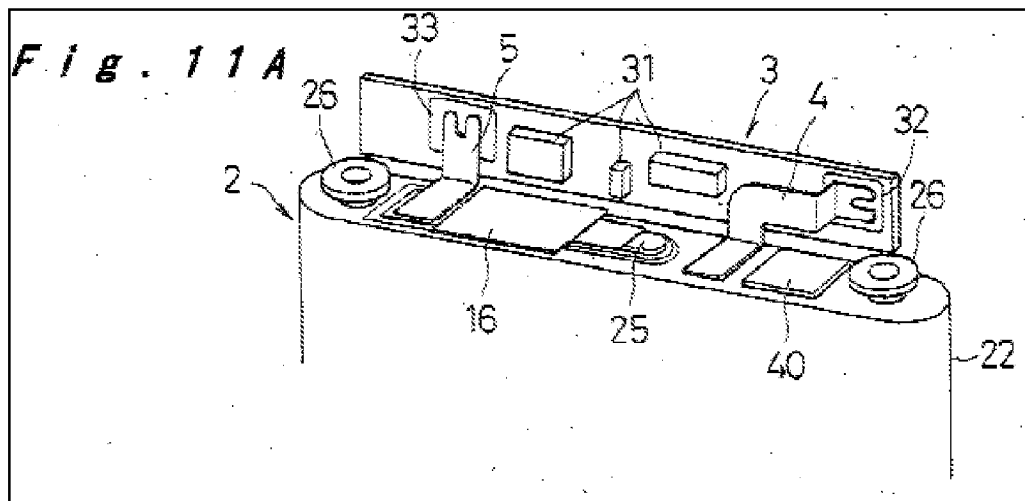
Hamazaki does not specifically teach a resin mold is formed by filling in a recess in which a circuit substrate is accommodated to cover the circuit substrate.

Masumoto teaches the battery, wherein the resin mold (103) is formed by filling a resin in a recess located in a frame between the battery and the terminal plate (102) in which the circuit substrate (3) is accommodated to cover the circuit substrate (3) on the side of the sealing plate, and the resin being used to make the parts integral to one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects (see col. 11, lines 39-61; fig. 6A and 11A). The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

Therefore it would be obvious to one with ordinary skill in the art to combine the recess located in the battery pack to have a resin that covers the entire recess in which

Art Unit: 1795

the circuit substrate is accommodated to make the parts integral to one another to exhibit excellent bonding strength, electrical insulation, chemical resistance, and to adverse any adverse thermal effects.



7. Claims 3, 6, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazaki in view of Masumoto in further view of Hamada et al. (U.S. Patent Pub. No. 2004/0058233) (hereinafter "Hamada").

Regarding claims 3 and 9, Hamazaki and Masumoto teach all of the positively recited elements of claims 1 and 7.

Hamazaki teaches the battery pack, wherein the rechargeable batteries are held by the frame in a parallel spaced relationship (see fig. 1).

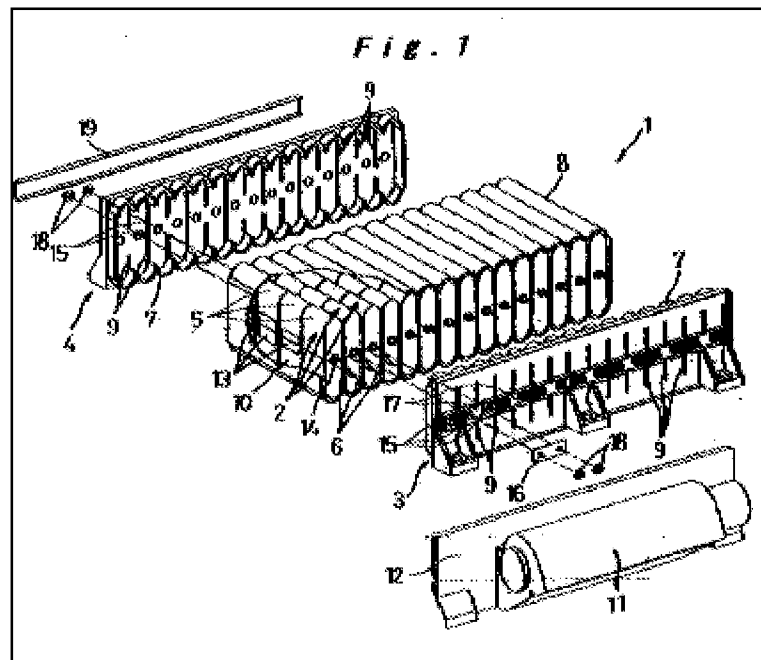
Hamazaki does not teach that the rechargeable batteries are of a flat prismatic shape, where the largest flat surfaces are directed opposite of each other.

However, Hamada teaches the batteries having a flat prismatic shape, where the largest flat surfaces are being directed opposite each other (see pars. 0008, 00029-0030; fig. 1). The change in form or shape, without any new or unexpected results, is

Art Unit: 1795

an obvious engineering design. See *In re Dailey*, 149 USPQ 47 (CCPA 1976) (see MPEP § 2144.04).

Therefore, it would be obvious to one with ordinary skill in the art to change the shape of the rechargeable batteries if it did nothing more than fit the battery pack and structure.



Regarding claims 6 and 12, Hamazaki teaches all of the positively recited elements of claims 2 and 8.

Hamazaki teaches the battery pack, wherein the rechargeable batteries are held by the frame in a parallel spaced relationship (see fig. 1).

Hamazaki does not teach that the rechargeable batteries are of a flat prismatic shape, where the largest flat surfaces are directed opposite of each other.

However, Hamada teaches the batteries having a flat prismatic shape, where the largest flat surfaces are being directed opposite each other (see pars. 0008, 00029-0030; fig. 1). The change in form or shape, without any new or unexpected results, is an obvious engineering design. See *In re Dailey*, 149 USPQ 47 (CCPA 1976) (see MPEP § 2144.04).

Therefore, it would be obvious to one with ordinary skill in the art to change the shape of the rechargeable batteries if it did nothing more than fit the battery pack and structure.

### ***Response to Arguments***

8. Applicant's arguments filed on May 26, 2009 have been fully considered but they are not persuasive.

*Applicant's principal argument is*

*(a) that the Masumoto et al. patent does not overcome the international filing date.*

In response to Applicant's arguments, please consider the following comments.

(a) the PCT Published date of the Masumoto et al. reference overcomes the international filing date of the present application.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA DAVIS whose telephone number is (571)270-7868. The examiner can normally be reached on 7:30am-5pm EST. Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sines can be reached on 571-272-1263. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA DAVIS/  
Examiner, Art Unit 1795

/Brian J. Sines/  
Supervisory Patent Examiner, Art Unit 1795